

Um Tributo aos Mestres, Amigos e Meus Familiares

Origem do Programa Avançado de Neurociências
UFRJ 1987

Ricardo Gattass

PAN/UFRJ 30 ANOS



O PAN foi criado em 1987 (Resolução CEPG 03/1987) e eu fui seu primeiro vice-coordenador.

Coordenador: **Carlos Eduardo G. Rocha Miranda**

Vice-coordenador: **Ricardo Gattass**

Secretária: **Maria Luiza Mattos**

COORDENADORES:

1987 - 1988 - Coordenador Carlos Eduardo G. Rocha-Miranda e Vice Ricardo Gattass

1989 – Primeiro Apoio FINEP – Coordenador RGattass (*Dr. Wilson Chagas de Araújo*)

1990 – Segundo Apoio FINEP – Coordenador RGattass

1990 – PRONEX Neuro

1989 -1990 - Coordenador Ricardo Gattass

1991-1992 - Coordenador Carlos Eduardo G de Rocha Miranda

1993 -1996 Coordenador Ricardo Gattass

1997 -2000 Coordenador Roberto Lent

2001 – 2003 Coordenador Rafael Linden

2004 - 2006 - Coordenador Vivaldo Moura Neto

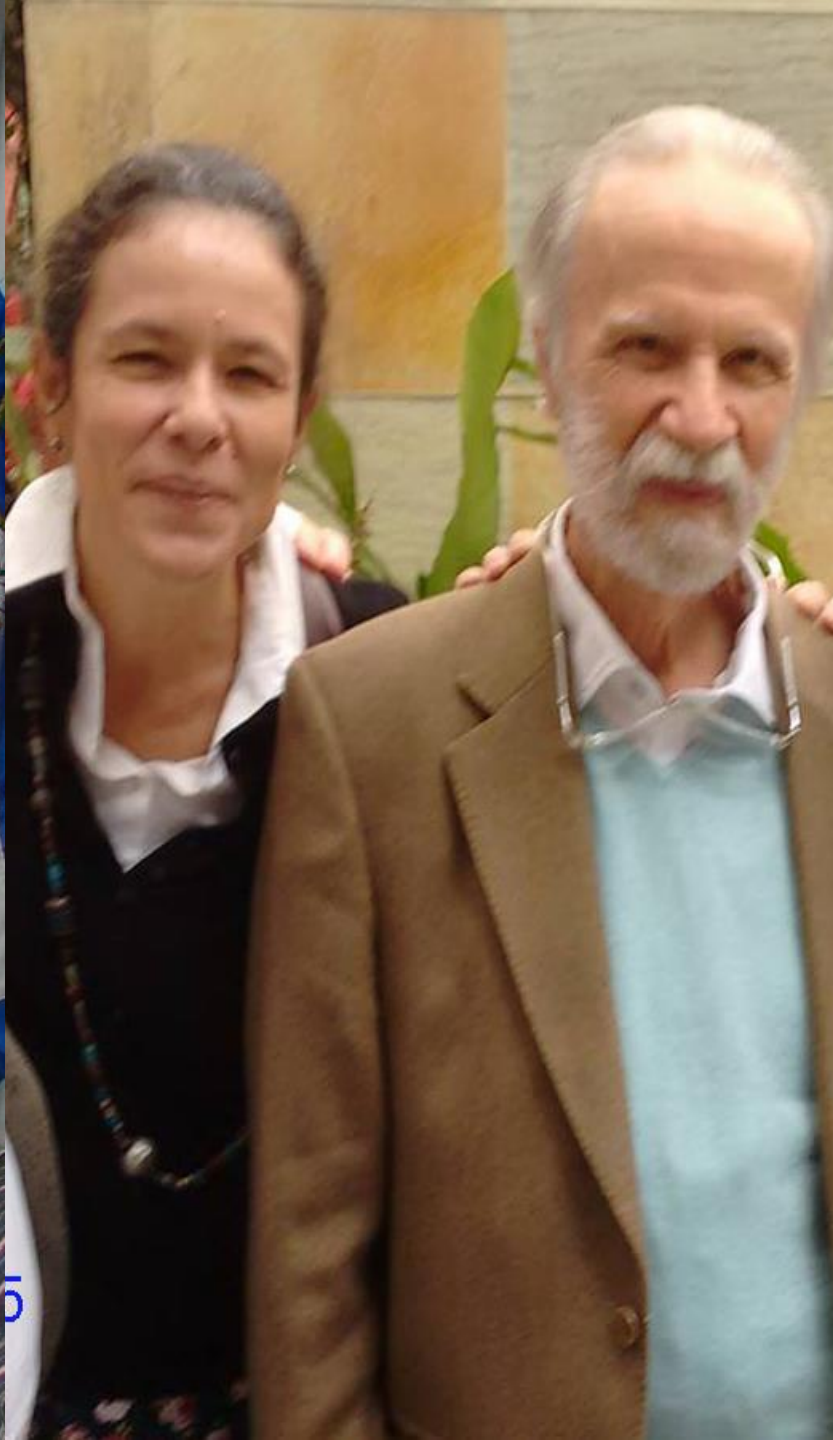
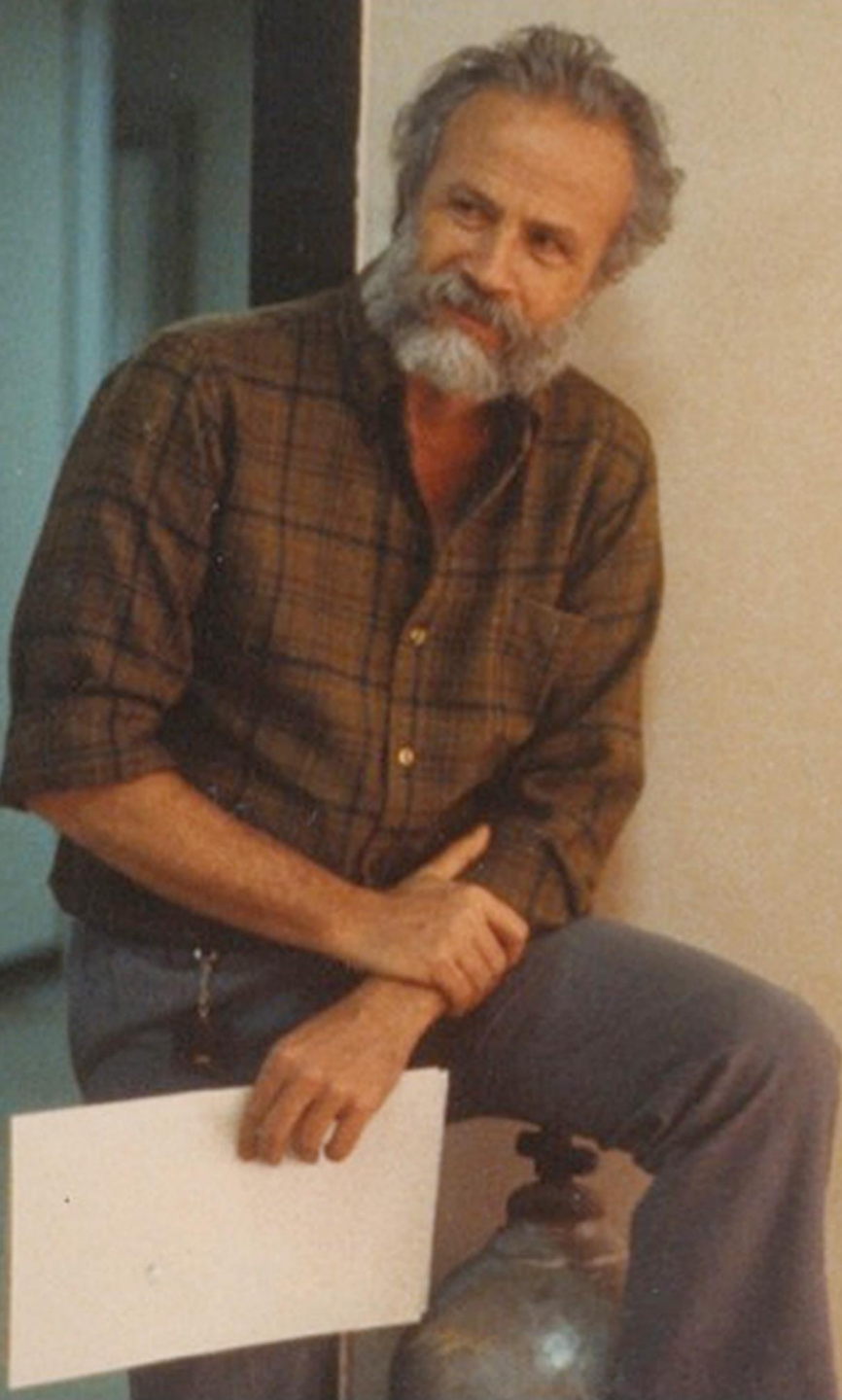
2007– 2010 Coordenadora Jan Nora Hockoç

2011 – 2013 Coordenadora Eliane Volchan

2014 – 2015 Coordenador Ricardo Reis

2016 – 2017 Coordenadora Cecília Hedin-Pereira











...and thanks to ...



... Raymundo Bernardes





Prêmio da Faculdade de Medicina







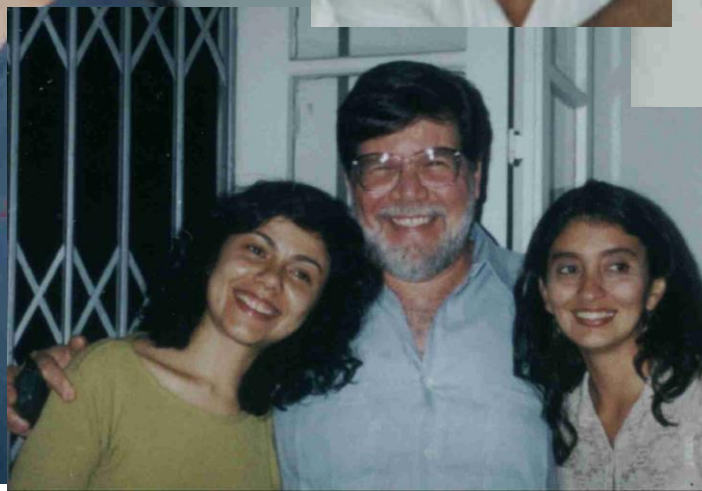
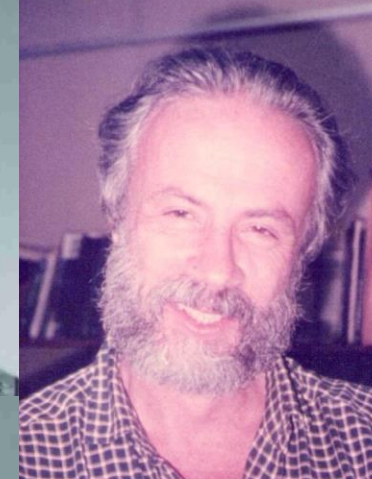


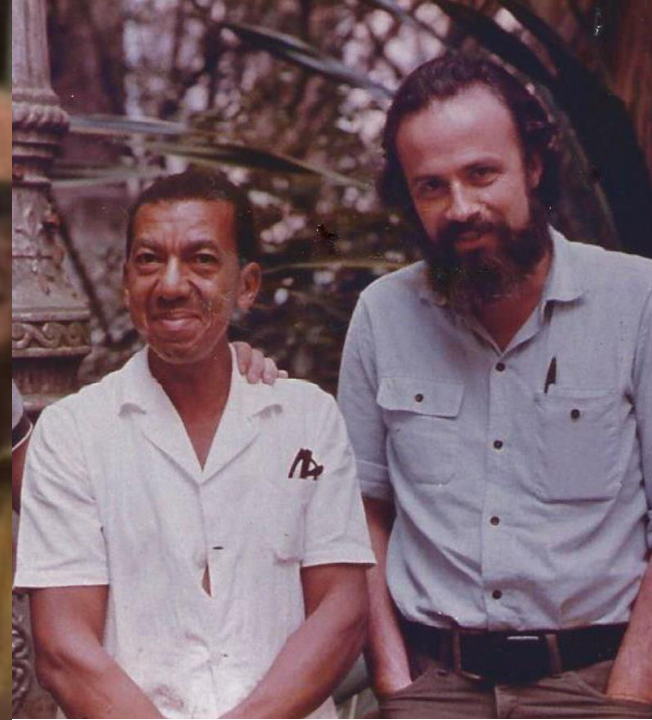






...Muito obrigado para...































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Architectonic mapping of somatosensory areas involved in skilled forelimb movements and tool use

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Cebus monkeys stand out from other New World monkeys by their ability to perform fine hand movements and use tools. Those behaviors rely on the processing and integration of somatosensory information, which occurs in different areas of the parietal cortex.

In this study, we used SMI-32 immunohistochemistry, myelin and Nissl preparations to characterize the architecture of the parietal cortical areas of cebus monkeys.

Methods:

7 adult cebus monkeys:

- 1) Electrophysiological mapping around and lateral to the tip of intraparietal sulcus;
- 2) Brain sectioning: parasagittally, coronally or horizontally at 40 or 50 μ m;
- 3) Histological procedures: Nissl staining (all cases); myelin and/or SMI-32 immunohistochemistry (2 cases);
- 4) Data analysis: performed on images collected using a 5x microscope equipped with the Neurolucida system



Figure 1. (A) Cebus monkey using a stick to reach a nut. (B) Photograph of the left hemisphere in oblique view. (C) Three-dimensional reconstruction of the hemisphere shown in B. The blue rectangle delineates the region of interest of the parietal cortex enlarged in D and E. (D) Area subdivisions of the somatosensory cortex. (E) 3D reconstruction shown in D was rotated to provide a more caudal and lateral view. Scale bar = 1 cm in B (applies also to C), or = central sulcus, p = intraparietal sulcus, MIP = medial intraparietal area.

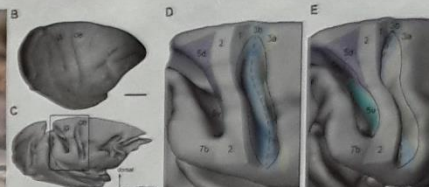


Figure 1. (A) Cebus monkey using a stick to reach a nut. (B) Photograph of the left hemisphere in oblique view. (C) Three-dimensional reconstruction of the hemisphere shown in B. The blue rectangle delineates the region of interest of the parietal cortex enlarged in D and E. (D) Area subdivisions of the somatosensory cortex. (E) 3D reconstruction shown in D was rotated to provide a more caudal and lateral view. Scale bar = 1 cm in B (applies also to C), or = central sulcus, p = intraparietal sulcus, MIP = medial intraparietal area.

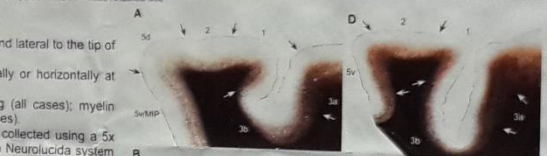


Figure 2. Low-magnification photomicrographs of parasagittal sections from anterior portions of the parietal cortex stained for Nissl and myelin. Cortical boundaries are indicated by arrows. A, B, and C correspond to myelin-stained sections from medial to lateral. D, E, and F correspond to a myelin-stained section adjacent to B, F corresponds to schematic drawings of each section in which the portion of the parietal cortex shown in A-F is indicated by red boxes. In E, scale bar = 2 mm (applies to all figures).

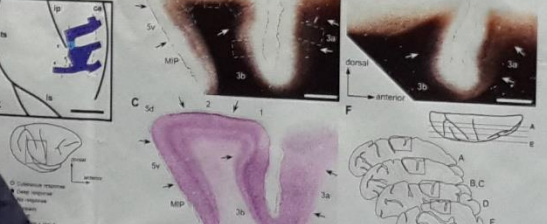


Figure 3. Low-magnification photomicrographs of parasagittal sections from the anterior portion of the parietal cortex immunostained for SMI-32. Cortical boundaries are indicated by arrows. A, B, and C correspond to SMI-32 stained sections from medial to lateral. D, E, and F correspond to schematic drawings of each section in which the portion of the parietal cortex shown in A-C is indicated by red boxes. In E, scale bar = 2 mm (applies to all figures).

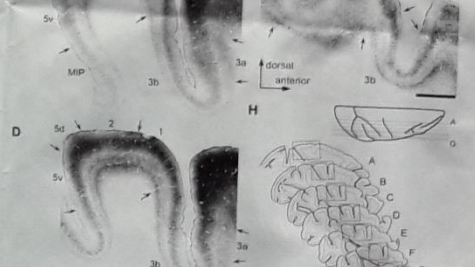
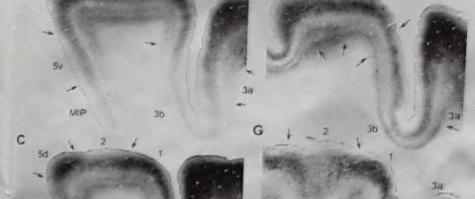
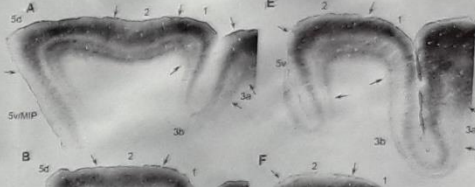


Figure 4. Low-magnification photomicrographs of parasagittal sections from the anterior portion of the parietal cortex immunostained for SMI-32. Cortical boundaries are indicated by arrows. In the anterior right corner (H), the portion of the parietal cortex shown in A-G is framed by red boxes in schematic drawings of each section. The approximate level of each section is indicated by the letters A-G. Scale bar = 2 mm in G (applies to all figures).

CONCLUSIONS

1) Cebus monkeys have a relatively complex somatosensory cortex. This suggests that, during primate evolution, the emergence of new somatosensory areas permitted the development of complex manual behaviors.

2) Except for areas 3a and 3b, distinction between different somatosensory areas was much more evident in myelin-stained sections and SMI-32 immunohistochemistry than Nissl staining.

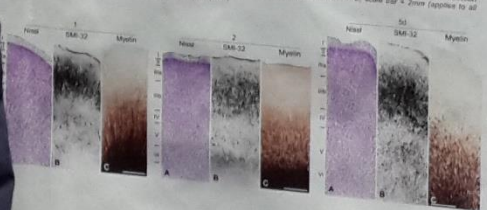


Figure 5. High-magnification photomicrographs of parasagittal sections from the anterior portion of the parietal cortex immunostained for SMI-32. Cortical boundaries are indicated by arrows. A, B, and C correspond to SMI-32 stained sections from medial to lateral. D, E, and F correspond to schematic drawings of each section in which the portion of the parietal cortex shown in A-C is indicated by red boxes. In E, scale bar = 2 mm (applies to all figures).









The Real Motivation - Dedicatory

We wish to dedicate this work to Thelma W. Galkin for her help, inspiration and skillful technical assistance at every stage of this work. Thelma reconstructed the lateral view of the claustrum and instigated us to search for its connections and function. This work is a tribute to this nice, serious, lovely and outgoing person that inspired us to look for the thin unknown hidden claustrum.

Thelma in Teresopolis



Thelma in Rio







Princeton 1978















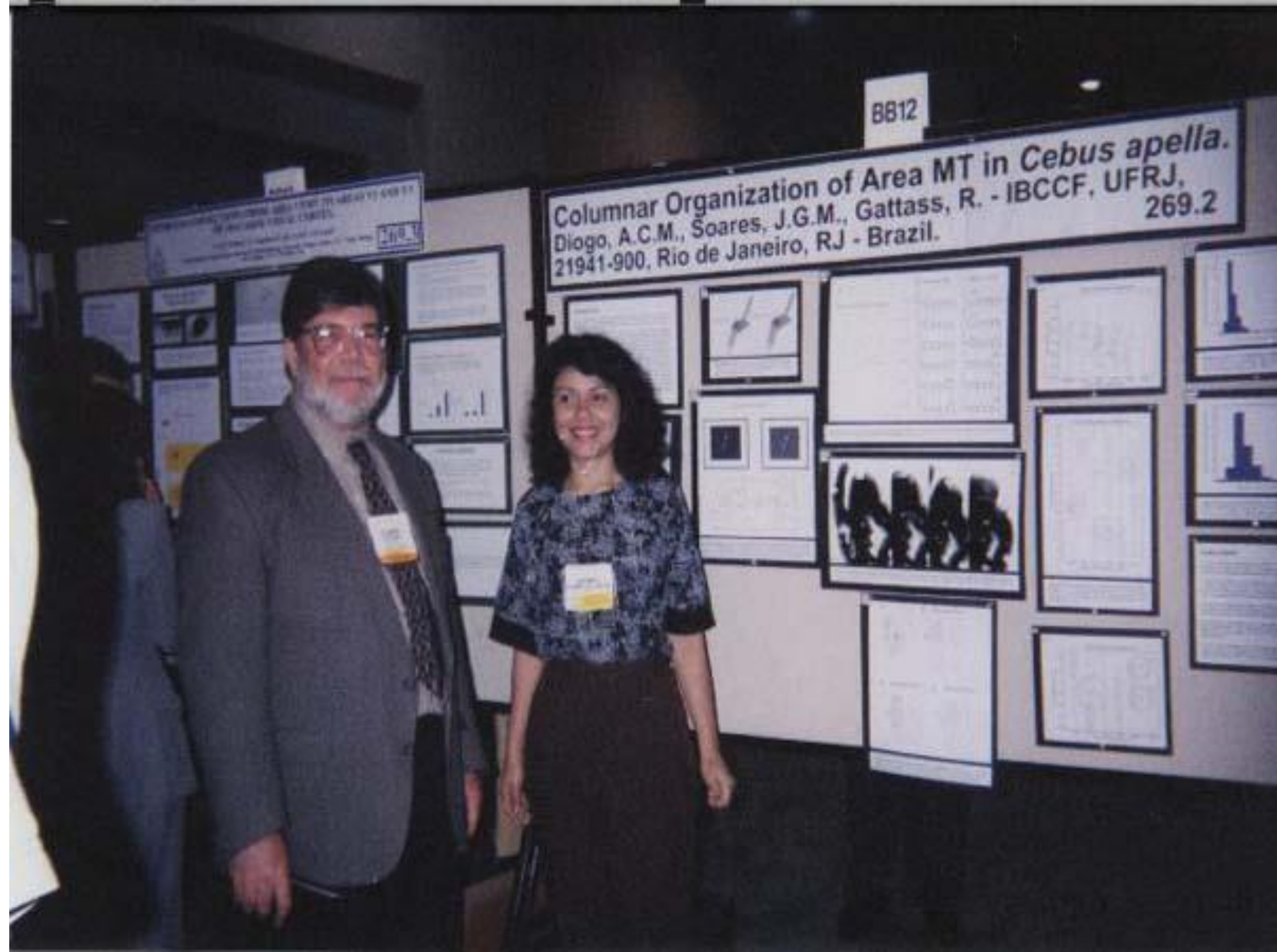




























Mariana



Lucas



Luiz
Eduardo

Maria Fernanda

João Paulo

... e ao meu time